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The Plight of Indigent Defendants in a Computer-Based Age: *Maintaining the Adversarial System by Granting Indigent Defendants Access to Computer Experts*

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ABSTRACT

In a world where computers are seemingly omnipresent, the use of computers in the commission of crimes is increasing. With this, there is an increased need for computer experts. There has been discussion of the need for computer experts for the prosecution, but very little (if any) discussion of the need for computer experts for a criminal defendant. In reality, defendants may need experts most of all because of the possibility of a wrongful conviction. This Article discusses the need for computer experts in criminal cases and how malware can lead to wrongful convictions. This Article seeks to explain how the Constitution guarantees the right to computer expert assistance by examining Strickland v. Washington and Ake v. Oklahoma, their progeny, and the Criminal Justice Act. The Article also explores how the current constitutional system and legislative framework are inadequate. Finally, the Article concludes by offering solutions to the problems.

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I. INTRODUCTION

This is a nightmare. It has to be. I was just minding my own business and now, this. I had a life. How did this happen? My computer is necessary to my life: sometimes, I wonder how I lived without one not that long ago.

A year ago, I was using my computer. It was working slowly, but what computer doesn't? I hit a key; there was a beep and then the blue screen of death. It took a long time to get the computer to restart. Thereafter, the computer continued to run poorly, continually returning to the blue screen of death. I took the computer to get fixed. I explained the problem; the computer guy said he would see what he could do. A week later, I called about my computer and was told on the phone that it might be a few days.

That night the police came to my home with a warrant for my arrest. I asked what I was being arrested for and I was told, "Possession of child pornography." "What?" I exclaimed. I kept telling them I didn't do it. I couldn't afford to hire an attorney, so one was appointed. The lawyer explained what had happened: when I turned in my computer to be fixed the repair guys found some child porn, reported it to the police, and the police reported it to the FBI.

I was being charged federally. My attorney advised me to plead guilty, but I wasn't guilty, so I wouldn't. At trial, a government computer expert testified that he discovered 106 images of child pornography on my hard drive. The expert also testified as to the processes he went through to discover the images. The 106 photos were presented to the jury. I was horrified; so was the jury. My attorney cross-examined. She asked whether the photos could have gotten on the computer without my knowledge. The expert said it was possible, but that in her experience she had never seen such a thing. I took the stand in my defense. I said I didn't do it; I told the truth. We didn't call an expert – the judge had denied the request for funding. It took less than twenty minutes for the jury to return a guilty verdict. I, an innocent man, was sentenced to sixty months imprisonment in a federal prison.

This story in some ways might seem a little fantastic, but the above hypothetical may be more realistic than at first glance.[1] Computers get viruses, worms, Trojan Horses, and other malicious software (malware) that have the potential to ruin your hard drive.[2] Additionally, malware can do more than just ruin your computer.[3] Properly executed malicious software can place packets of information and executable files on a person's computer.[4] By opening the wrong e-mail, clicking the wrong link, or engaging in otherwise seemingly innocuous computer activities, one might be inadvertently downloading child pornography or leaving an open door for a black hat hacker[5] to access one's computer.[6]

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[1] *See* Susan Brenner et al., *The Trojan Horse Defense in Cybercrime Cases*, 21 SANTA CLARA COMPUTER AND HIGH TECH. L.J. 1, 3–12 (2004); *see also* Laurel J. Sweet, *Probe shows kiddie porn rap was bogus*, BOSTON HERALD, June 16, 2008, at A5; *cf.* Daniel Bice & Patrick Marley, *E-mailer tries to extort Wisconsin lawmakers: Mail tries to put child porn on representatives' computers, official says*, MILWAUKEE J. SENTINEL, Aug. 2, 2010, http://www.jsonline.com/news/statepolitics/99784764.html (discussing a situation where a person tried to extort state lawmakers by threatening to place child pornography on their computer) (last visited January 8, 2011). It is possible that the defendant mentioned in the Sweet article, *supra*, was in fact guilty and the discovery of malware on the computer prompted the government to drop the case because the government no longer believed it could prove the case beyond a reasonable doubt. *See* Sweet, *supra*, at A5. However, at a minimum the case shows that a computer expert helps to maintain the adversarial system by challenging the government's expert and looking for exculpatory evidence that the government overlooked. *See* Sweet, *supra*, at A5.

[2] Brenner et al., *supra* note 1, at 38–39.

[3] *Id.*

[4] *Id.*

[5] A black hat hacker is "a person who breaks into a computer system with the purpose of inflicting damage or stealing data. *Definition of: black hat hacker*, PCMAG.COM, http://www.pcmag.com/encyclopedia_term/0,2542,t=black+hat+hacker&i=38735,00.asp (last visited Jan. 8, 2011).

[6] Brenner et al., *supra* note 1, at 38–39.

The moral condemnation associated with child pornography might prejudice a jury in coming to a fair decision,[7] and prosecutors and investigators discovering a computer with child pornography may feel the evidence overwhelmingly supports trying the case. A suspect, wrongly accused, might have a difficult time proving that he did not knowingly possess child pornography.[8] Of course, the defendant's attorney can argue that the computer was infiltrated by malicious software, but that might seem like a banal argument.[9] The fear of a wrongful conviction is a serious concern, but just as important is ensuring that a defendant be given a fair trial and a fair opportunity to present a defense. To do this, defendant's need access to computer expert assistance. A solvent defendant will have no difficulty obtaining a computer expert's assistance; however, an indigent defendant may find it much more difficult to obtain expert assistance.

This Article will explore the necessity and availability of computer experts for indigent defendants in the Sixth Circuit Court of Appeals and the federal courts more broadly. Part II will offer background information beginning with a brief introduction to computers and their effect on crime; continuing on to examine the role and cost of a computer expert in litigation and to review the Criminal Justice Act's (CJA) right to expert assistance for indigent defendants; and concluding by discussing the current problems and looking at the advantages in making computer experts more available to indigent defendants. Part III will begin with an overview of *Strickland v. Washington* and conclude with a hypothetical exhibiting a suspect's dilemma when counsel fails to obtain computer expert assistance. Part IV will discuss *Ake v. Oklahoma*, beginning with an overview of the case and continuing on to discuss post-*Ake* precedent and the Sixth Circuit's precedent in particular. The Part will conclude with a hypothetical showing the dilemma caused by *Ake*, as well as the dilemma of the CJA for those who wish to retain computer expert assistance. Part V will discuss ways of solving the dilemmas that are posed and ways of increasing the accessibility to computer experts.[10]

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[7] *See* Robert Perez, *Defending Child Pornography Cases*, *in* STRATEGIES FOR DEFENDING INTERNET PORNOGRAPHY CASES: LEADING LAWYERS ON ANALYZING ELECTRONIC DOCUMENTS, UTILIZING EXPERT WITNESSES, AND EXPLAINING TECHNOLOGICAL EVIDENCE 7, 10 (2008) [hereinafter STRATEGIES]; Mark A. Satawa, *Creative Strategies Required: Defending a Unique and Technical Area of Law*, *in* STRATEGIES 66, 68 (2008).

[8] A number of factors might make it difficult to disprove knowingly possessing child pornography including the myriad of ways to get child pornography onto a computer; the ease of manipulating time stamps on saved documents; and the difficulties posed by malware. *See* Brenner et al., *supra* note 1, at 15 (quoting Mark Rasch, *The Giant Wooden Horse Did It!*, SECURITY FOCUS, Jan. 19, 2004, http://www.securityfocus.com/columnists/208).

[9] As Professor Brenner and her colleagues observe, a malware defense sounds very similar to, and functions in much the same way as, the defense of "I didn't do it, someone else did." *See* Brenner *supra* note 1, at 9.

[10] The Article is premised on the assumption that defense counsel would be able to obtain a copy of the defendant's hard drive or to conduct meaningful analysis of the hard drive at some location. This may be more difficult after the passing of the Adam Walsh Act (AWA). Pub. L. No. 109-248, 120 Stat. 587 (2006). The AWA puts severe restrictions on discovery of in child pornography. *See* 18 U.S.C. § 3509(m). Under § 3509(m), the material that constitutes child pornography must remain in the control of the government. *Id.* A defendant may not gain a copy of the hard drive for computer analysis; rather, the court must give the defendant "ample opportunity" to inspect, examine, and view the child pornography. *Id.* This creates significant issues for a defense computer expert hired to conduct a computer forensics analysis by increasing the cost associated with a computer analysis and the likelihood that a computer expert will

II. BACKGROUND OF COMPUTERS AND EXPERTS

Before delving into the Supreme Court's precedents concerning effective assistance of counsel and expert assistance, a basic understanding of the significance of computers and computer expert assistance is needed. Thus, this Part begins by discussing the advent of the computer age and the complications it poses for traditional crime enforcement. The Part proceeds to discuss malware and the complications it can pose for criminal trials. This is followed by a discussion showing the need for computer experts in litigation and the cost associated with retaining such an expert. After this, there is a brief discussion of the CJA and its guarantee of expert assistance for a criminal defendant. Finally, the Part ends by addressing the advantages of engaging computer experts.

A. Computers, Crime, and the 21st Century

Computers are just about everywhere. Coffee shops, stores, libraries, courtrooms, classrooms, and offices all, generally, have computers and/or access to the internet. Furthermore, the internet is constantly becoming more prevalent in our lives.[11] The internet allows people to communicate through e-mail, shop, watch television, see friends or family with live-streaming audio and video, and commit crimes,[12] all from the safety of a home, office, coffee shop, library, or vehicle.[13]

Modern society poses new and complicated problems for many professions. The legal profession is no exception. Modern society is a complex web of technology. Lawyers now rely on that technology to an enormous extent. Gone are the days of spending hours in a library leafing through case law. Rather, the modern lawyer spends hours on the computer searching for the best authority with an ease unimaginable fifty years ago. Technology has improved communication between lawyers and clients. A

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take the case. *See* Elizabeth C. Wood, Comment, *The Adam Walsh Child Protection and Safety Act of 2006: A Violation of the Criminal Defendant's Sixth Amendment Rights to Confrontation and Compulsory Process*, 37 STETSON L. REV. 985, 1013–14 (2008); Richard A. Cline, *Legal, Factual, and Emotional: Addressing All Aspects of the Defense Strategy*, *in* STRATEGIES 90, 98–99 (stating that in one case the cost of retaining a computer expert increased from $135,000 to $500,000 because of the restrictions imposed by the AWA).

[11] *See Internet Usage and Statistics for North America*, INTERNET WORLD STATS, June 30, 2010, http://www.internetworldstats.com/stats14.htm (according to Nielson and ITU just over 77% of the United States population now uses the internet) (last visited Nov. 19, 2010).

[12] SEARCHING AND SEIZING COMPUTERS AND OBTAINING ELECTRONIC EVIDENCE IN CRIMINAL INVESTIGATIONS, U.S. DEP'T OF JUSTICE ix (3d ed. 2009), *available at* http://www.cybercrime.gov/ssmanual/index.html.

[13] There are two primary ways of accessing the internet from a vehicle. The first method is connecting to a wireless network via a router connected to a hard-line connection. *DEFINITION OF: WIRELESS ROUTER*, PCMAG.COM, http://www.pcmag.com/encyclopedia_term/0,2542,t=wireless+router&i=54783,00.asp (last visited Jan. 7, 2011). The second method is through the use of a mobile broadband device now offered by some wireless providers. *See, e.g.*, *VERIZON WIRELESS FIVESPOT GLOBAL READY 3G MOBILE HOTSPOT*, VERIZON.COM, http://www.verizonwireless.com/b2c/store/controller?item=phoneFirst&action=viewPhoneDetail&selectedPhoneId=5535&deviceCategoryId=13 (last visited Jan. 25, 2011).

lawyer can now work from just about anywhere in the world as long as the lawyer has the right tools.

However, with these conveniences come downsides. Lawyers are seemingly always on the clock because a partner, associate, client, or opposing counsel can reach them day or night at home, at the office, or while on vacation. Perhaps more problematic are the problems created by this technology in the court room. A lawyer can recreate an event using computer generated animations. This is powerful, persuasive evidence in the hands of those who can afford it. And computers can make it harder to determine who committed a crime.

With the advent of computer technology, it was inevitable that computers would be used for illicit activities. Computers have been used to commit *inter alia*[14] extortion,[15] to solicit sex from minors,[16] to solicit sex for money,[17] and to conspire.[18] Most noteworthy, and most infamously, computers and the internet have become a favored medium for child pornography.[19] A child pornographer can possess, distribute, and advertise child pornography on a computer and through the internet.[20] Computers and the internet now house a large amount of child pornography.

There are few statistics on the actual prevalence of the use of computers in the commission of crimes, but the perceptions of some lawyers,[21] the extensive literature on computer searches and seizures,[22] and the number of cases involving computer-based evidence and computer crimes,[23] all suggest that the computer is becoming an important part of the criminal world. With the rise of computer use, the need for computer expert assistance in criminal cases is also increasing.

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[14]*See also* SEARCHING AND SEIZING COMPUTERS, *supra* note 12, at ix.

[15]*See, e.g.*, United States v. Sippola, No. 10-2331 (W.D. Mich. July 15, 2010).

[16]*See, e.g.*, United States v. Young, 613 F.3d 735, 738–42, 749 (8th Cir. 2010).

[17]*See Craigslist Can't Stop Online Prostitution*, CBSNEWS.COM, Sept. 6, 2010, http://www.cbsnews.com/stories/2010/09/06/tech/main6838640.shtml (last visited Jan. 7, 2011).

[18]United States v. Spellissy, No. 8:05-CR-475-T-27TGW, 2010 WL 5463107, at *2 (M.D. Fla. Dec. 28, 2010).

[19]*See, e.g.*, United States v. Williams, 553 U.S. 285, 291–92 (2008) (affirming defendant's conviction where he used a computer to distribute child pornography); United States v. Yu, No. 09-4520, 2010 WL 5421358, at *1 (4th Cir. Dec. 30, 2010); United States v. Keefer, No. 09-3474, 2010 WL 5421344, at *1 (6th Cir. Dec. 28, 2010).

[20]*See, e.g.*, United States v. Hausler, No. 09-3890 2010 WL 4851065, at *6 (7th Cir. Nov. 8, 2010).

[21]E-mail Interview with Ray Kent, Public Defender, Western District of Michigan Public Defender's Office and Clare Freeman, Research Specialist, Western District of Michigan Public Defender's Office (Nov. 29, 2010) ("We have seen a marked increase in the use of experts in this office and with the Cimrinal Justice Act panel attorneys. I can't give you numbers, but we have seen a very big increase. With the rise in internet and computer crime (e.g., child pornography and fraud), there is a corresponding need for experts.") (on file with author).

[22]*See generally e.g.*, Orin S. Kerr, *Applying the Fourth Amendment to the Internet*, 62 STAN. L. REV. 1005 (2010); Orin S. Kerr, *Fourth Amendment Seizures of Computer Data*, 119 YALE L.J. 700 (2010); Lily R. Robinton, *Courting Chaos: Conflicting Guidance from Courts Highlights the Need for Clearer Rules to Govern the Search and Seizure of Digital Evidence*, 12 YALE J. L. & TECH. 311 (2009–2010).

[23]A search of all cases on Westlaw for "Computer Evidence" returns 280 cases as of January 6, 2011.

B. Malware and the Consequences for a Criminal Case

Malware, generally, is a "set of instructions that run on [a] computer and make [the] system do something that an attacker wants it to do."[24] Malware can *inter alia* cause a computer to download files, allow a hacker to access the computer by bypassing security systems, add websites to those in the internet history, delete files, and delete the traces that the malware would leave on the infected computer making it appear as though it had never existed.[25] Thereby, malware can hide the illegality of a third party, making it look, for all purposes, as though the computer user engaged in the illegal activity.[26]

A malware defense claims that malware caused a computer to engage in illegal activity without the computer user's knowledge.[27] The malware defense has been successful in a number of cases in the United States and the United Kingdom.[28] Though the malware defense may not entirely exonerate a defendant and may only raise a reasonable doubt, in at least one case the evidence obtained by the computer expert suggested the accused was innocent.[29] Furthermore, when a computer is involved in the crime, defense counsel may be doing his client an extreme disservice in failing to obtain a computer expert.[30]

C. The Role of Computer Experts in Criminal Cases

There was a time when a lawyer did not need a lot of help from experts.[31] But, as one criminal defense attorney put it, "Gone are the days of Daniel Webster and Clarence Darrow, when oratory alone will win the day."[32] As technology and medicine have advanced, the use of experts has become more prevalent in court proceedings.[33]

Though valuable to both the prosecution and the defense, computer experts play slightly different roles for each. For the prosecutor, the computer expert often functions as a computer analyst looking for evidence of the crime on the computer[34] and then functions as an expert witness at trial, simplifying for the jury what was discovered on the

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[24]Brenner et al., *supra* note 1, at 37 (internal quotations omitted).

[25]*See id.* at 38–39.

[26]*See id.*

[27]*See id.* at 3–11.

[28]*See id.*; *see also* Laurel J. Sweet, *supra* note 1, at A5.

[29]*See* Sweet, *supra* note 1, at A5 (a computer expert spent a month analyzing the computer before showing that the computer had corrupted security software allowing hackers and crackers to invade the computer with child pornography).

[30]*See infra* notes 37–50 and accompanying text.

[31]*See, e.g.*, Peter E. Brill, *Self-Awareness: The Key to Successful Defense*, *in* STRATEGIES 115, 122 (2008); Richard A. Cline, *supra* note 10, at 98–99; Hannah Jacobs Wiseman, *Pro Bono Publico: The Growing Need for Expert Aid*, 60 S.C. L. Rev. 493, 497–98 (2008) (explaining that the need for experts (including computer experts) is on the rise).

[32]Brill, *supra* note 31, at 122.

[33]Wiseman, *supra* note 31, at 497–98.

[34]*See generally* COMPUTER CRIME, *supra* note 12, at 1–114.

computer and how the information was discovered.[35] The ultimate goal of the investigation is a right and just outcome, whether that means an acquittal or a conviction.[36]

Defense counsel can use a computer expert for several purposes. An independent defense computer expert ensures the adversarial nature of a trial. Rather than merely relying on the evidence the government presents, the defendant has his own expert to rebut (or validate) the statements of the government's expert and government evidence.[37] A computer expert can perform a forensic analysis of the defendant's computer to determine if the evidence of the crime could have been planted on the computer through malware[38] or to determine what the government will offer as evidence at trial, permitting the defense attorney to be better prepared.[39] The defense expert can also look at the images to determine if they are real or virtual,[40] which may be very important prior to trial or at sentencing.[41]

[35]E-mail Interview with Steven M. Biskupic, former United States Attorney for the Eastern District of Wisconsin (Nov. 22, 2010) ("The primary role [of a computer expert] is to verify the authenticity and accuracy of information obtained [from a computer]. . . . The goal of any expert is to simplify an issue for the jury—take the complex and make it understandable.") (on file with author).

[36]*See* Ake v. Oklahoma, 470 U.S. 68, 79 (1985) ("The State's interest in prevailing at trial—unlike that of a private litigant—is necessarily tempered by its interest in the fair and accurate adjudication of criminal cases.").

[37]Brill, *supra* note 31, at 122; A. Patrick Roberts, *Building Defense Strategy*, *in* STRATEGIES 129, 136 (2008); E-mail Interview with Ray Kent and Clare Freeman, *supra* note 21 ([Question:] In a criminal case involving computer-based evidence to a significant degree, should defense attorneys engage a computer expert to investigate the government's case . . . ? [Response:] Yes. Experts needed for [that] reason[].).

[38]*See* Ian N. Friedman, *Defending Individuals Charged with Internet Pornography Offenses*, *in* STRATEGIES 139, 154 (2008) ("If an alternate cause for the existence of the contraband is identified, the defense will proceed toward trial or a more favorable resolution."); Satawa, *supra* note 7, at 69; Sweet, *supra* note 1, at A5 (a computer expert spent a month analyzing the computer before showing that the computer had corrupted security software allowing hackers and crackers to invade the computer with child pornography); *see also* Brenner et al., *supra* note 1, at 15–16. Though Professor Brenner and her colleagues do not specifically advocate the use of experts, it does state the Trojan horse defense could result in wrongful convictions. *Id.* The use of a computer expert may aid in exonerating the defendant. *See* Sweet *supra* note 1, at A5.

[39]*See* Katherine M. Sweeney, *Internet Pornography Laws, Precedents, and Defense*, *in* STRATEGIES 27, 54 (2008) (advocating the use of an expert to prepare for cross-examination and to counter the government's case).

[40]*See* Ashcroft v. Free Speech Coalition, 535 U.S. 234, 257–58 (2002) (holding that virtual images of child pornography are protected by the First Amendment); Cline, *supra* note 10, at 98.

[41]If all of the images are virtual, then the person cannot be punished under 18 U.S.C. § 2252A (West, Westlaw through P.L. 112-28). *See Free Speech Coalition*, 535 U.S. at 257–58. Furthermore, the United States Sentencing Guidelines determine punishment for possession of child pornography largely based on the number of photos possessed. *See* U.S.S.G. § 2G2.2(b)(7)(West, Westlaw through Nov. 1, 2010). Even though the U.S. Sentencing Guidelines are advisory, *see* United States v. Booker, 543 U.S. 220, 266 (2005), courts still stay within the guidelines in a majority of cases. *See, e.g.* Frank O. Bowman III, *Debacle: How the Supreme Court Has Mangled American Sentencing Law and How It Might Yet Be Mended*, 77 U. CHI. L. REV. 367, 467 (2010) (stating that in the three years after *Booker*, courts stayed within the guidelines 58 percent of the time).

A computer expert can further help the defense prepare to cross-examine the government's expert witness.[42] Though there are some lawyers with the expertise and experience to deal with cross-examining a computer expert speaking "computerese"[43] rather than "legalese," many criminal defense attorneys lack the computer experience to question how the evidence was obtained,[44] what deleted-but-not-really-deleted files are and how they are obtained,[45] how partial files can be recovered from caches,[46] and other questions that may arise during a cross-examination of a computer expert. On the other hand, as lawyers become better able to deal with computer experts through experience and a greater understanding of computer-based evidence, the need for experts to help prepare cross-examination will diminish. However, it has been suggested that mere cross-examination is insufficient to rebut a computer expert and that a defense expert is the only way to truly rebut a government computer expert.[47] Through the use of a computer expert, the defense can balance the trial and ensure the proper functioning of the adversarial system.[48]

Additionally, computer experts may be important for communication between a client and his counsel. In cases revolving around computer activity, there will be instances where the defendant is extremely computer savvy.[49] To fully understand what

[42]*See* Friedman, *supra* note 38, at 161 (a computer expert can help the defense attorney understand the case against the defendant and share possible defense strategies); Sweeney, *supra* note 39, at 54.

[43]*Definition of Computerese*, Dictionary.com, http://dictionary.reference.com/browse/computerese (last visited Jan. 9, 2011).

[44]*See, e.g.*, Lee Hollander, *Tactics for Defending Computer Pornography Charges*, *in* STRATEGIES 58, 63–64 (2008) (advocating that defense attorneys developing an in-depth understanding of the computer technology involved in a case, in part through the use of a computer expert); Daniel E. Harmon, *The Quest for "Lost" Information in Fast-Growing Legions, Forensic-Specialists are Probing Computer Systems for "Dead" Data*, 20 NO. 7 LAW. PC 6 (2003).

[45]*See, e.g.*, Harmon, *supra* note 44.

[46]A cache downloads data from visited websites to speed up the download when the defendant returns to that website. *See* Gianina Martin, Note, *Possession of Child Pornography: Should You Be Convicted When the Computer Cache Does the Saving for You?*, 60 FLA. L. REV. 1205, 1212–14 (2008) (giving a description of a cache). A person does not have control over the download, but may delete the data when clearing the temporary internet folder. *See id.* However, deleting the temporary internet folder only opens up the previously unavailable space for use, it does not actually wipe the date from the hard drive. *See* Brenner et al., *supra* note 1, at 49–50. Furthermore, malware can cause a computer to download illegal materials to the cache without a defendant's knowledge. *Id.* at 39.

[47]Paul C. Gianelli, *Ake v. Oklahoma: The Right to Expert Assistance in a Post*-Daubert*, Post-DNA World*, 89 CORNELL L. REV. 1305, 1376–78 (2004); Brill, *supra* note 31, at 122; *cf.* Mary E. McGinnis Hadley, Comment, *Access to CGAs and Justice: The Impact of the Use of Computer Generated Animations on Indigent Criminal Defendants' Constitutional Rights*, 22 GEO. J. LEGAL ETHICS 877, 887–888 (suggesting that given the complexity of CGAs the failure of defense counsel to obtain computer assistance and rebut a government expert with a defense expert might be catastrophic for the defense because a jury will more often side with the expert).

[48]*See* Brill, *supra* note 31, at 122.

[49] E-mail Interview with Ray Kent & Clare Freeman, *supra* note 21.

> [Question:] In a criminal case involving computer-based evidence to a significant degree, should defense attorney's [sic] engage a computer expert in order to investigate the government's case, in order to prepare for cross-examination through an in-depth computer analysis or to gain an understanding of how computers work, or [for] any other reason you might know of?

the defendant is saying, a computer expert trained in communicating complex information to a jury may be incredibly helpful in preparing the defense team for trial.[50]

Computer experts are needed at least in some cases;[51] therefore, defendants will need to fund these experts. Qualified computer experts are not cheap: rates range from $50 to $500 per hour.[52] Furthermore, if the computer expert will be engaging in a computer analysis searching for possible malware or examining images to determine if the images are virtual or real, the expert will require substantial amounts of time; therefore, substantial expense to the defendant will be incurred.[53]

D. Funding and Availability of Computer Expert Assistance for the Indigent Defendant in the Federal System: The Criminal Justice Act

Federal Courts offer an indigent defendant the opportunity to gain expert assistance. The CJA allows an indigent defendant to request, via a court motion, expert assistance "necessary for adequate representation."[54] If a court finds that an expert is necessary to representation, the court shall grant the assistance.[55] Counsel may obtain expert assistance, subject to later review, when the expenses for such an expert are less than $800.[56] The cost of the expert may not exceed $2,400, unless the expenses are certified by the court "as necessary to provide fair compensation for services of an

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> [Response:] [Computer experts are] also needed to communicate with client. We have had some very computer-savvy clients. These clients need someone they can explain their perspective to, someone who can talk on their level and break down the problems with the client's perspective.

[50] *Id.*

[51] *Id.*

> [Question:] Should defense attorneys, in order to ensure the "adversarial nature" of a criminal trial, engage computer experts when the government's case relies heavily on computer-based evidence? [Response:] Usually. Again, there are exceptions. How critical is the computer evidence? If it's critical, you will probably need a computer expert. It's been suggested that the parties "share" the government's expert resources. This idea simply doesn't work. The reasons are terribly obvious: the government isn't asking the same questions or looking for the same data and the defense should not have to share its strategy.

[52] *See* Sharon D. Nelson & John W. Simek, *Ghostbusters "Who You Gonna Call?"*, 28 FAM. ADVOC. 40, 40–41 (2005–2006) (stating that a computer expert generally costs between $250 and $500 per hour, that a company charging less than $200 is somewhat suspect, and that "small cases" cost between $5,000 and $10,000 with larger cases reaching six digits); E-mail Interview with Ray Kent & Clare Freeman, *supra* note 21 [Retaining an independent expert varies in cost:] $50 to $300 per hour. Or by gigabyte depending on what you're trying to do. Sometimes up to $500/hour. Sometimes charged per drive (again, depending on what the job is.); *cf.* Cline, *supra* note 10, at 101 (discussing United States v. Knellinger, 471 F. Supp.2d 640 (E.D. Va. 2007) where limitations on access to computer evidence caused the cost of expert witness fees to increase from $135,000 to over $500,000).

[53] *Compare* Sweet, *supra* note 1, at A5 (where it took a month of computer analysis to result in the dismissal of charges), *with* Nelson & Simek, *supra* note 52 (stating that a computer expert generally costs $250–$500 per hour), *and* E-mail Interview with Ray Kent & Clare Freeman, *supra* note 21 (stating that a computer expert's rate generally ranges from $50 to $300 per hour).

[54] 18 U.S.C.A. § 3006A(e)(1) (West 2010).

[55] *Id.*

[56] *Id.* § 3006A(e)(2)(A).

unusual character or duration," and the chief judge of the circuit approves the amount in excess.[57]

In determining whether an expert is necessary for adequate representation, different circuits have applied different rules.[58] The Fifth Circuit will grant assistance "where the government's case rests heavily on a theory most competently addressed by expert testimony."[59] The Ninth Circuit will grant expert assistance when "a reasonable attorney would engage such services for a client having the independent financial means to pay for them."[60] In the First Circuit the expert testimony must "be 'pivotal' or 'critical' to the defense."[61] The Eleventh Circuit allows the trial court to "reject an application for appointment if the accused does not have a plausible claim or defense."[62] In the Sixth Circuit, there must be a plausible defense that requires expert assistance and without the expert assistance the defendant's case would be prejudiced.[63] Such a determination would be subject to an abuse of discretion standard.[64] Therefore, depending on the jurisdiction, it may be more or less difficult to obtain computer expert assistance under the CJA.[65] If a court grants expert assistance, the assistance extends to trial, pretrial, and preparation for cross-examination of government experts.[66] Furthermore the right to expert assistance has, in some instances, been extended to sentencing[67] and collateral proceedings.[68]

In general, it is difficult to obtain expert assistance for indigent defendants because there is limited funding, because courts are not willing to exercise their power to appoint experts, because lawyers lack training and resources to obtain experts, and because there are significant limitations on the power of courts to appoint experts.[69] Hence, indigent defendants are not getting the expert assistance that their cases require.[70]

E. What is the Problem?

A question that might arise at this point is, "So what?" A brief recap will point out the problem. First, computers are an integrated part of our society and an integrated

[57] *Id.* § 3006A(e)(3).

[58] Gianelli, *supra* note 47, at 1336–37.

[59] *Id.* (citing United States v. Patterson, 724 F.2d 1128, 1130 (5th Cir. 1984); United States v. Williams, 998 F.2d 258, 263–64 (5th Cir. 1993)).

[60] *Id.* (citing United States v. Bass, 477 F.2d 723, 725 (9th Cir. 1973)).

[61] *Id.* (citing United States v. Manning, 79 F.3d 212, 218 (1st Cir. 1996)).

[62] *Id.* (citing United States v. Rinchack, 820 F.2d 1557, 1564 (11th Cir. 1987)).

[63] United States v. Gilmore, 282 F.3d 398, 406 (6th Cir. 2002).

[64] *Id.*

[65] The state system is significantly more impoverished than the federal system with access to experts being even more limited. Gianelli, *supra* note 47, at 1338–39.

[66] Gianelli, *supra* note 47, at 1337.

[67] *Id.* (citing United States v. Abreu, 202 F.3d 386, 390 (1st Cir. 2000); United States v. Barney, 55 F. Supp. 2d 1310, 1314 (D. Utah 1999)).

[68] *Id.* (citing Lawson v. Dixon, 3 F.3d 743, 750 (4th Cir. 1993)). In *Lawson*, the defendant was sentenced to death; therefore, he was entitled to expert assistance in his collateral proceeding. Lawson, 3 F.3d at 751–53. Experts are rarely available in collateral proceedings. *See infra* note 113.

[69] *See* Wiseman, *supra* note 31, at 535–36.

[70] *See generally id.* at 503–535.

part of criminal acts.[71] Second, malware can make it appear that the user did something that he or she did not actually do.[72] Third, computer experts can discover malware on a computer, help exonerate a defendant (or raise a reasonable doubt), and maintain the adversarial process.[73] Fourth, expert assistance is difficult to obtain for indigent defendants. [74] The system is failing because defendants are in many cases not getting the tools (i.e. a computer expert) required to challenge their accusers, which creates a substantial risk that an innocent person will be convicted[75] and undermines the proper functioning of the adversarial system.[76]

F. Advantages of Granting Increased Computer Expert Aid to Indigent Defendants

The primary reason to grant defendants greater access to computer experts is the hope that computer experts will help prevent the punishment of innocent persons. This can be done by checking computers for malware that may have resulted in the unlawful computer activity.[77]

By granting defendants access to computer experts, the adversarial nature of criminal proceedings will be ensured: defendants will not have to rely on the government's expert but may present their own experts to rebut the government's expert. Undoubtedly, prosecutors and law enforcement officers may occasionally overlook possible defenses.[78] Also, there have been instances where government experts tamper with evidence to ensure a conviction.[79] By having an independent expert, the government will be held accountable for their results. Additionally, the use of independent experts will, hopefully, result in more in-depth computer analysis by government experts, which will help uncover any exculpatory information contained on the computer.

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[71] *See supra* Part II.A.

[72] *See supra* Part II.B.

[73] *See supra* Part II.C.

[74] *See supra* Part II.D.

[75] *See, e.g.*, Sweet, *supra* note 1, at A5.

[76] Without the ability to call a computer expert when a case depends on computer evidence entered by a government computer expert, the defense fails to challenge the government's case. *See supra* notes 37–39, 47–48 and accompanying text. In order to maintain the adversarial system, the defense must be given the tools needed to challenge the government's experts, which undoubtedly will include a computer expert in a case revolving around computer evidence. *See supra* Part II.C.

[77] *See generally* Brenner et al., *supra* note 1, at 22–36 (discussing ways the government can disprove the malware defense).

[78] *See, e.g.*, Sweet, *supra* note 1, at A5 (government failed to explore Trojan horse defense and defendant was only exonerated after a computer expert spent a month analyzing the computer); Brenner et al., *supra* note 1, at 3–12 (discussing several cases of successful—though perhaps illegitimate—use of the Trojan horse defense).

[79] Andrew E. Taslitz, *Convicting the Guilty, Acquitting the Innocent: The ABA Takes a Stand*, 19 CRIM. JUST. 18, 27 (2005) (discussing several high profile cases of forensic fraud conducted by the government's experts including the case of Fred Zain and a probe into the FBI's laboratory).

III. THE SIXTH AMENDMENT'S RIGHT TO EFFECTIVE ASSISTANCE OF COUNSEL

The government bringing its prosecutorial power to bear against a person is a significant event. To protect those accused of a crime, the Constitution guarantees that a person shall have the right to counsel.[80] However, the guarantee of a lawyer has little or no meaning if the right does not include the right to effective assistance of counsel. Thus, the Supreme Court has interpreted the Sixth Amendment to guarantee the effective assistance of counsel.[81] But what constitutes effective assistance of counsel and when would the failure to obtain expert assistance make defense counsel's performance ineffective? This Part attempts to answer these two questions.

A. *Strickland v. Washington*

The Supreme Court has interpreted the right to counsel to mean the indigent defendant has the right to the effective assistance of counsel.[82] In doing so, the Supreme Court has tried to ensure a fair trial by guaranteeing an adversarial trial.[83]

In *Strickland v. Washington*,[84] the Supreme Court examined what constitutes ineffective assistance of counsel[85] and established a test to determine whether a lawyer has rendered ineffective assistance.[86] A lawyer renders ineffective assistance of counsel when defense counsel's performance undermines the adversarial nature of a trial, such that the court cannot rely on the trial as having produced a fair result.[87] To determine whether a lawyer has rendered ineffective assistance of counsel a defendant must show two things: (1) that his lawyer's performance was deficient and (2) that the deficient performance prejudiced the defendant.[88]

The "deficiency" prong of the test requires that the defendant show that his lawyer failed to meet an objective standard of reasonableness.[89] The lawyer must "bring to bear such skill and knowledge as will render the trial a reliable adversarial testing process."[90] A reviewing court must determine whether defense counsel's assistance was reasonable considering all of the circumstances, strongly presuming that counsel has acted reasonably.[91] Counsel's assistance will be sufficient if counsel's choices can be characterized as the result of a strategy made after thorough investigation or if counsel's

[80] U.S. CONST. amend. VI.
[81] Strickland v. Washington, 466 U.S. 668, 686 (1984).
[82] Jenny Roberts, *Too Little, Too Late: Ineffective Assistance of Counsel, the Duty to Investigate, and Pretrial Discovery in Criminal Cases*, 31 FORDHAM URB. L. J. 1097, 1099 (citing McMann v. Richardson, 397 U.S. 747, 759 n.14 (1970)).
[83] *Strickland*, 466 U.S. 668, 686 (1984).
[84] 466 U.S. 668.
[85] *See id.* at 687–92.
[86] *See id.* at 687.
[87] *See id*.
[88] *See id.* at 687.
[89] *See id*.
[90] *Strickland*, 466 U.S. at 688.
[91] *See id.* at 688–89.

choices are reasonable because "professional judgment supports the limitations on investigation."[92]

The "prejudice" prong of the test requires the defendant to show that his counsel's deficient performance had an unfavorable effect on the defense.[93] To satisfy the "prejudice" prong, the defendant "must show that there is a reasonable probability that, but for counsel's unprofessional errors, the result would have been different.[94] A reasonable probability is a probability sufficient to undermine confidence in the outcome."[95] The Court concluded its annunciation of the *Strickland* test by saying that a court may examine the prongs in any order and need only consider one before dismissing the claim.[96]

Justice Marshall dissented in *Strickland* because he believed that the two-prong test pronounced by the Court was unacceptable.[97] The first prong, according to Justice Marshall, was too malleable.[98] Rather than embracing its duty to develop detailed standards, the Court had failed to give standards such that lower courts could exercise their responsibility.[99] According to Justice Marshall, defense counsel should be given wide latitude but should be subject to more judicial oversight than required by the test announced.[100]

Justice Marshall objected to the second prong of the *Strickland* test for two reasons. First, it is often difficult to tell if the outcome would have been different had defense counsel been competent.[101] Second, the purpose of the guarantee to effective assistance of counsel is (1) to reduce the chance that an innocent person will be convicted and (2) to guarantee fundamentally fair procedures at trial.[102] Marshall believed the Court had failed to heed the second purpose.[103] According to Justice Marshall, the Court's failure to take notice of the second principle ignored due process and the requirements of fundamentally fair proceedings.[104] Justice Marshall also objected to the strong presumption afforded to a lawyer's decisions.[105] He contended that defense counsel should be held to prevailing professional norms.[106] This would be broad enough to allow defense counsel the flexibility needed.[107] He went on to criticize the majority's

[92] *Id.* at 690–91.
[93] *See id.* at 693.
[94] *Id.*
[95] *Id.* at 694.
[96] *See Strickland*, 466 U.S. at 697.
[97] *See id.* at 706–07 (Marshall, J., dissenting).
[98] *See id.* 708 (Marshall, J., dissenting).
[99] *See id.* (Marshall, J., dissenting).
[100] *See id.* at 709 (Marshall, J., dissenting).
[101] *See id.* at 710 (Marshall, J., dissenting).
[102] *See Strickland*, 466 U.S. at 711 (Marshall, J., dissenting).
[103] *See id.* (Marshall, J., dissenting).
[104] *See id.* (Marshall, J., dissenting).
[105] *See id.* at 712 (Marshall, J., dissenting).
[106] *See id.* at 713 (Marshall, J., dissenting).
[107] *See id.* (Marshall, J., dissenting).

decisional foundations.[108] Whether Justice Marshall was right or not, the *Strickland* test has become ingrained in the criminal justice system.[109]

B. The *Strickland* Dilemma: Where Defense Counsel Fails to Obtain Expert Assistance: A Hypothetical

Defense counsel represents defendant D, who is charged with possession of child pornography. D is innocent. D tells counsel that he is innocent. Defense counsel looks at the evidence and finds it overwhelmingly in favor of the government, but D refuses to enter a plea because he claims he is innocent. Defense counsel prepares for trial looking for possible defenses. Counsel explores a Trojan horse defense, but rejects it for reasons unknown and does not request the assistance of a computer expert. The case goes to trial and D is convicted. Counsel considers and ultimately rejects obtaining computer expert assistance during the penalty phase.[110]

D petitions for a writ of habeas corpus claiming that he was denied the effective assistance of counsel. D claims that counsel's failure to obtain expert assistance during trial and at sentencing constituted ineffective assistance of counsel. The claim would surely be denied. D would need to show that the failure to engage a computer expert prejudiced his case.[111] This would require the defendant to engage a computer expert and present evidence that there was malware on his computer or that some of the images were virtual and that establishing this evidence would have caused a different outcome.[112] An indigent defendant, locked behind bars would, in all likelihood, be unable to engage an expert because he would be unable to obtain funds to hire an expert. Furthermore, so long as defense counsel explored a Trojan horse defense or the use of a computer expert for mitigation purposes, a court would most likely find that counsel's performance was constitutionally sufficient.[113] Thus, a defendant will be unable to obtain habeas relief based on ineffective assistance of counsel when defense counsel fails to obtain computer expert assistance.

IV. *AKE V. OKLAHOMA*: THE CONSTITUTIONAL RIGHT TO EXPERT ASSISTANCE

A good lawyer is not always enough. Sometimes a case will go outside the expertise of a lawyer, and the lawyer will need to retain the assistance of a person with

[108] *See Strickland*, 466 U.S. at 713–14 (Marshall, J., dissenting). Justice Marshall stated that he had faith in the ability of lower courts to dispose of meritless claims and that he was not afraid that ineffective assistance claims would clog the courts and dampen the ardor of defense counsel. *Id.* at 713. Furthermore, Justice Marshall criticizes the majority for discounting "the significance of its rul[e and] suggesting that its choice of standard[] matters little." *Id.* at 714.

[109] WAYNE R. LAFAVE ET AL., PRINCIPLES OF CRIMINAL PROCEDURE: POST-INVESTIGATION 146–50 (2009).

[110] *See supra* notes 38–39 and accompanying text. A computer expert may be important at the penalty phase of a child pornography case in order to determine if the images are virtual or real.

[111] *See supra* note 88 and accompanying text.

[112] *See supra* notes 34–50 and accompanying text.

[113] *See* Roberts, *supra* note 82, at 1108–21 (discussing what constitutes sufficient investigation for purposes of *Strickland*).

the expertise required. The Supreme Court, in *Ake v. Oklahoma*[114] recognized that an indigent defendant has a narrow right to expert assistance. This Part will discuss *Ake*, will continue on to discuss post-*Ake* precedent in the federal circuits and in particular the Sixth Circuit, will proceed to consider possible downsides of retaining a computer expert under *Ake*, and will conclude with a hypothetical detailing the dilemma in *Ake*'s progeny and the CJA's right to expert assistance.

A. *Ake v. Oklahoma*

In *Ake v. Oklahoma*, the indigent defendant was charged with murdering two people.[115] He was diagnosed schizophrenic and committed to a state hospital prior to trial.[116] Initially, the defendant was found mentally incompetent to stand trial, but six weeks later the trial court was told the defendant was competent.[117] Defendant's competency depended upon the continued use of anti-psychotic drugs.[118]

Defendant's counsel moved for the assistance of a psychiatrist to prepare for an insanity defense arguing that the Constitution guaranteed assistance of a psychiatrist when the assistance was "necessary to the defense."[119] The trial court denied the motion, finding no such guarantee under the United States Constitution.[120] Because of this, the defendant was unable to present an expert as to his sanity at the time of the offense, and the defendant was convicted (though it's probably obvious in the context of this article, it should be explicitly noted that the defendant wasn't able to present an expert because he was unable to afford one).[121]

At sentencing, the government relied on state psychiatrists' testimony, which alleged that the defendant was dangerous to society at the present time and would likely remain dangerous.[122] (The psychiatrists said that the defendant was dangerous to society, not that he would likely remain dangerous. It was the government that made the latter assertion.) Without an expert, the defendant was unable to rebut this testimony.[123] The defendant was then sentenced to death and the Oklahoma Court of Criminal Appeals affirmed the trial court's decision.[124] The United States Supreme Court granted certiorari.[125]

The Court held that an indigent defendant is entitled to the "basic tools of an adequate defense or appeal," which may include the assistance of a psychiatrist.[126]

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[114] Ake v. Oklahoma, 470 U.S. 68 (1985).
[115] *See id.* at 70.
[116] *See id.* at 71.
[117] *See id.*
[118] *See id.*
[119] *Id.* at 72.
[120] *See Ake*, 470 U.S. at 72.
[121] *See id.* at 73.
[122] *See id.*
[123] *See id.*
[124] *See id. at* 74.
[125] *Id.* at 74.
[126] *Ake*, 470 U.S. at 77 (quoting Britt v. North Carolina, 404 U.S. 226, 227 (1971)), 86–87.

Largely founded in the Fourteenth Amendment's due process guarantee of fundamental fairness, the Court examined under what conditions an indigent defendant is entitled to the assistance of a psychiatrist in trial preparation.[127]

The Court employed a three-factor balancing test to determine if the defendant was entitled to the expert assistance of a psychiatrist.[128] The first factor requires a court to determine "the private interest that will be affected by the action of the State."[129] The "private interest" factor examines the interest of the individual in the outcome of the case, including the degree of punishment.[130] The second factor requires a court to look at "the government interest that will be affected if the safeguard is to be provided."[131] The state's interest in its economy was unconvincing in the Court's opinion because other states made psychiatric assistance available and because the cost to the state was not so great as to preclude assistance.[132] Additionally, the state's interest in obtaining a conviction is tempered by its interest in a fair proceeding and a right and just outcome.[133] Therefore, the Court held that the second factor mitigated in favor of granting the defendant assistance of a psychiatrist.[134]

The third factor "is the probable value of the additional or substitute procedural safeguards that are sought and the risk of an erroneous deprivation of the affected interest if those safeguards are not provided."[135] In determining that the factor weighed in favor of granting the defendant expert assistance, the court noted that psychiatrists have come to play an important role in criminal proceedings.[136] The Court also noted that Congress recognized the right of indigent defendants to expert assistance through the CJA.[137] The Court went on to say that when a defendant's mental condition is relevant to criminal culpability and the penalty the defendant faces, the assistance of a psychiatrist may be essential to the defense of the case.[138] The Court added that in such a case a defendant without a psychiatrist's assistance faces a high risk of an inaccurate resolution.[139] According to the Court, a psychiatrist's assistance should be granted to an indigent defendant when the defendant can show "that his sanity is likely to be a significant factor in his defense."[140] The Court concluded that the state's interest in its economic position must yield where the interests in a right and just outcome are substantial.[141] In *Caldwell v. Mississippi*,[142] the Supreme Court clarified *Ake* slightly by holding that a defendant

[127]*See id.* at 77.
[128]*See id.*
[129]*Id*.
[130]*See id.* at 78.
[131]*See id*. at 77.
[132]*See Ake*, 470 U.S. at 78.
[133]*See id*. at 79.
[134]*See id.*
[135]*Id*. at 77.
[136]*See id.* at 79.
[137]*See id.* at 79–80.
[138]*See Ake*, 470 U.S. at 79-80.
[139]*See id.* at 82.
[140]*Id.* at 82–83.
[141]*See id.* at 83.
[142]Caldwell v. Mississippi, 472 U.S. 320, 323 n.1 (1985).

must offer more than undeveloped assertions to be entitled to expert assistance under the Constitution.[143] The Supreme Court's decision in *Ake* spawned a large amount of case law throughout the United States.[144]

B. Post-*Ake* Precedent

In the post-*Ake* era lower courts have been left with the duty of discovering the bounds of the decision.[145] Most lower courts in the post-*Ake* era have held that the right to expert assistance is not limited to capital cases[146] or limited to a psychiatrist's assistance.[147] Moreover, a defendant is entitled to expert assistance during trial

[143] *See id.*

[144] *See infra* notes 149–50, 154 and accompanying text.

[145] The Supreme Court has given some guidance. *See* Medina v. California, 505 U.S. 437, 444–45 (1992); *Caldwell*, 472 U.S. at 323 n.1 (1985). However, the vast majority of *Ake*-progeny has been left to other courts. *See infra* notes 149–50, 154 and accompanying text.

[146] *See, e.g.*, Terry v. Rees, 985 F.2d 283, 284 (6th Cir. 1993) (noncapital murder); Dunn v. Roberts, 963 F.2d 308, 312–13 (10th Cir. 1992); Cowley v. Stricklin, 929 F.2d 640, 640 (11th Cir. 1991); Little v. Armontrout, 835 F.2d 1240, 1244–45 (8th Cir. 1987); Palmer v. State, 486 N.E.2d 477, 481–82 (Ind. 1985); State v. Coker, 412 N.W.2d 589, 592–93 (Iowa 1987); State v. Dunn, 758 P.2d 718, 724–25 (Kan. 1988); People v. Stone, 491 N.W.2d 628, 631 (Mich. Ct. App. 1992); Pertgen v. State, 774 P.2d 429, 430–31 (Nev. 1989); State v. Campbell, 498 A.2d 330, 332–33 (N.H. 1985); State v. Barnett, 909 S.W.2d 423, 427 (Tenn. 1995); Taylor v. State, 939 S.W.2d 148, 152 (Tex. Crim. App. 1996).

[147] *See, e.g.*, United States v. Mikos, 539 F.3d 706, 712 (7th Cir. 2008) (recognizing that *Ake* "entitle[s] defendants to the services of experts necessary to meet the prosecution's case" where a ballistics expert was needed); Terry v. Rees, 985 F.2d 283, 284 (6th Cir. 1993) (holding the defendant was denied opportunity to effective defense when denied right to expert assistance from an independent pathologist); Dunn v. Roberts, 963 F.2d 308, 313 (10th Cir. 1992) (holding defendant was entitled to a battered-spouse syndrome expert); Scott v. Louisiana, 934 F.2d 631, 633 (5th Cir. 1991) (holding the defendant was entitled to a ballistics expert); Little v. Armontrout, 835 F.2d 1240, 1244–45 (8th Cir. 1987) (holding it was error to deny funding for expert assistance of hypnosis expert); Moore v. Kemp, 809 F.2d 702, 709-10, 718 (11th Cir. 1987) (request for criminologist's assistance failed to create a reasonable probability that expert assistance was necessary); Dubose v. Alabama, 662 So.2d 1189, 1192-93 (Ala. 1995) (right to DNA expert assistance); *Ex parte* Moody, 684 So.2d 114, 118–19 (Ala. 1996) (holding *Ake* applicable to non-psychiatric experts generally); *Ex parte* Sanders, 612 So.2d 1199, 1201–02 (Ala. 1993); Prater v. State, 820 S.W.2d 429, 439 (Ark. 1991); Doe v. Superior Court, 45 Cal. Rptr. 2d 888, 892–93 (Cal. Ct. App. 1995) (holding the defendant was entitled to experts on battered spouse and post-traumatic stress syndromes); Cade v. State, 658 So.2d 550, 555 (Fla. Dist. Ct. App. 1995) (DNA expert); Bright v. State, 455 S.E.2d 37, 50 (Ga. 1995) (holding the defendant was entitled to expert toxicologist); Crawford v. State, 362 S.E.2d 201, 206 (Ga. 1987) (holding the defendant was entitled to serologist, psychologist, and survey expert); Thornton v. State, 339 S.E.2d 240, 240–41 (Ga. 1986) (holding defendant was entitled to a forensic dentist); People v. Lawson, 644 N.E.2d 1172, 1192 (Ill. 1994) (holding defendant was entitled to fingerprint and shoe print experts); James v. State, 613 N.E.2d 15, 21 (Ind. 1993) (holding defendant was entitled to a blood spatter expert); State v. Coker, 412 N.W.2d 589, 593 (Iowa 1987) (holding defendant was entitled to an expert to assist with intoxication defense); State v. Carmouche, 527 So.2d 307, 307 (La. 1988) (fingerprint expert, serologist); Moore v. State, 889 A.2d 335, 363-64 (Md. 2005); Polk v. State, 612 So.2d 381, 393 (Miss. 1992) (DNA expert); State v. Huchting, 927 S.W.2d 411, 419 (Mo. Ct. App. 1996) (DNA expert); People v. Tyson, 618 N.Y.S.2d 796, 797 (N.Y. App. Div. 1994) (holding the defendant was entitled to a voiceprint expert); State v. Bridges, 385 S.E.2d 337, 339 (N.C. 1989) (fingerprint expert); State v. Moore, 364 S.E.2d 648, 656–58 (N.C. 1988) (pathologist, non-psychiatrist physician, fingerprint expert); Mason v. Ohio, 694 N.E.2d 932, 943–945 (Ohio 1998) (holding defendant was entitled to non-psychiatric assistance but that defendant failed to make showing he was entitled to, *inter alia*, assistance of soil expert, shoeprint expert, mass media expert, and firearms expert); Rogers v.

proceedings as well as during the penalty phase of court proceedings.[148] On the other hand, some courts have been unlikely to grant expert assistance.[149] Furthermore, when a trial court denies expert assistance, appellate courts rarely find reversible error.[150]

Ineffective assistance claims and the right to expert assistance have become inextricably tied together post-*Ake*. Defendants often raise claims of ineffective assistance of counsel for their attorney's failure to obtain an expert's assistance in preparing a defense or have an expert testify at trial.[151] Furthermore, courts often review the issue by framing a counselor's failure to obtain expert assistance within the ineffective assistance test announced in *Strickland*.[152]

The Sixth Circuit Court of Appeals has extended the *Ake* guarantee beyond capital cases and beyond psychiatric assistance.[153] When a district court finds that a defendant is entitled to expert assistance under *Ake*, the Sixth Circuit requires that an independent expert be appointed, not merely a neutral expert.[154] The Sixth Circuit has also held that a

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State, 890 P.2d 959, 966 (Okla. Crim. App. 1995) (holding defendant was entitled to any expert necessary for adequate defense); State v. Rogers, 836 P.2d 1308, 1315 (Or. 1992) (holding defendant was entitled to an opinion polling expert); State v. Edwards, 868 S.W.2d 682, 697 (Tenn. Crim. App. 1993) (DNA expert); Taylor v. State, 939 S.W.2d 148, 153 (Tex. Crim. App. 1996) (DNA expert); Rey v. State, 897 S.W.2d 333, 338–39 (Tex. Crim. App. 1995) (forensic pathologist)). *But cf.* Smith v. Warden, No. 1:09-cv-251, 2010 WL 3075166, at *17–18 (S.D. Ohio Apr. 14, 2010) ("[T]here is no clearly established federal law mandating the appointment of a non-psychiatric expert for an indigent defendant in a criminal case.").

[148]*See, e.g.*, Powell v. Collins, 332 F.3d 376, 390 (6th Cir. 2003).

[149]*See* Gianelli, *supra* note 47, at 1312–13.

[150]*See* Paul S. Peterson, *Indigent Defense*, 23-JUL CHAMPION 48, 50–51 (1999).

[151]*See, e.g.*, Worthington v. Roper, 631 F.3d 487, at 506 n. 12 (8th Cir. 2011); Landrum v. Mitchell, 625 F.3d 905, 920 (6th Cir. 2010); Gonzales v. Hartley, 397 Fed. Appx. 483, 485 (10th Cir. 2010); Ellison v. Acevedo, 593 F.3d 625, 627 (7th Cir. 2010); Ward v. Hall, 592 F.3d 1144, 1172 (11th Cir. 2010); Baker v. Evans, No. 2:07-cv-00188 JCW, 2010 WL 4722034, at *28–30 (E.D. Cal. Nov. 12, 2010) (claiming ineffective assistance of counsel for failure to obtain a computer expert); Morris v. Curtin, No. 08-cv-11348, 2010 WL 4340663, at *8–10 (E.D. Mich. Oct. 27, 2010); Corp v. Florida Dept. of Corr., No. 3:07-cv-652-J-34TEM, 2010 WL 3469506, *1 (M.D. Fla. Aug. 31, 2010); Spiegelmann v. Warden, No. CV044000190, 2010 WL 3672347, at *6 (Conn. Super. Ct. Aug. 26, 2010) (citing Siano v. Warden, 628 A.2d 984 (Conn. 1993) (holding that a failure to call an expert constituted ineffective assistance of counsel under the facts of that case)); Franqui v. State, 59 So. 3d 82, at 89 n.4 (Fla. 2011); Jones v. State, No. W2009-02051-CCA-R3-PC, 2010 WL 4812773, at *1 (Tenn. Crim. App. Nov. 19, 2010).

[152]*See, e.g.*, Smith v. Workman, 550 F.3d 1258, 1265–67 (10th Cir. 2008); Cowans v. Bagley, 624 F. Supp. 2d 709, 788 (S.D. Ohio 2008); Boyd v. Lee, No. 1:00CV00647, 2003 WL 22757932, at *12–13 (M.D.N.C. 2003); Franqui v. State, No. SC05-830, 2011 WL 31379, at *3 n.4 (Fla. Jan. 6, 2011); Halvorson v. People, 258 S.W.3d 1, 6–7 (Ky. 2007); *see also* Gianelli, *supra* note 47, at 1364–65 (stating that courts continue to cite effective assistance in expert assistance cases).

[153]Terry v. Rees, 985 F.2d 283, 284 (6th Cir. 1993). *But cf.* Smith v. Warden, 2010 WL 3075166, at *14 (S.D. Ohio Apr. 14, 2010) (denying relief because there is no clearly established federal law requiring the appointment of a non-psychiatrist expert).

[154]Powell v. Collins, 332 F.3d 376, 391–92 (6th Cir. 2003) (joining those other circuits that require a defendant be appointed an independent expert); *see also* Carter v. Mitchell, 443 F.3d 517, 526 (6th Cir. 2006). *Contra* Smith v. Mitchell, 348 F.3d 177, 207–208 (2003). Because *Powell* was decided first, it controls under Sixth Circuit precedent: "A published prior panel decision 'remains controlling authority unless an inconsistent decision of the United States Supreme Court requires modification of the decision or this Court sitting en banc overrules the prior decision.'" Rutherford v. Columbia Gas, 575 F.3d 616, 619 (6th Cir. 2009) (quoting Salmi v. Sec'y of Health & Human Servs., 774 F.2d 685, 689 (6th Cir.1985)). However, the lower courts of the Sixth Circuit have not been entirely consistent in applying *Powell*.

defendant is not entitled to expert assistance unless the defendant makes a preliminary showing based on specific facts and more than a general statement of need.[155] A conviction will be reversed for failure to appoint an expert if denial of the expert resulted in a fundamentally unfair trial[156] with such an error being subject to harmless error review.[157] To be entitled to relief, the defendant must show that the denial of an expert resulted in prejudice or that the denial creates grave doubt as to the harmlessness of the error.[158]

C. Should a Defendant be Entitled to Computer-Expert Assistance under *Ake*?

An honest application of the *Ake*-test would entitle a defendant charged with a crime, where there is a possible malware defense, to the assistance of an expert.[159] The individual interest is the avoidance of prison or jail time and the further interest of a right and just outcome. Having a computer expert will help the accused create a defense and make it less likely that an innocent person will be convicted.[160] Though the punishment may not be capital in many of these cases, in a child pornography case, the harsh penalties[161] coupled with sex offender registration[162] make a conviction particularly serious.

Compare Sneed v. Johnson, No. 1:04CV 588, 2007 WL 709778, at *62 (N.D. Ohio March 2, 2007) (recognizing that the Sixth Circuit has held that a defendant is entitled to an independent psychiatrist rather than a neutral psychiatrist), *and* Landrum v. Anderson, No. 1:96-CV-641, 2005 WL 3965399, at *82 (S.D. Ohio Nov. 1, 2005) (stating that *Ake* guarantees an independent expert), *rev'd on other grounds* Landrum v. Mitchell, 625 F.3d 905, 934–35 (2010), *with* Miller v. Bell, 655 F. Supp. 838, 851 (E.D. Tenn. 2009) (stating that *Ake* does not necessarily require the appointment of an independent expert).

[155] *Powell*, 332 F.3d at 391–92 (citing Caldwell v. Mississippi, 472 U.S. 320, 323 n.1 (1985)).

[156] *Terry*, 985 F.2d at 284.

[157] *Powell*, 332 F.3d at 393.

[158] *Id.* (citing California v. Roy, 519 U.S. 2, 4–5 (1996)).

[159] *Medina v. California*, 505 U.S. 437 (1992), appeared to eliminate the Mathews v. Eldridge, 424 U.S. 319 (1976) test employed in *Ake* from the *Ake* analysis. *See* Gianelli, *supra* note 47, at 1364. Yet, lower courts post-*Medina* have generally continued to use the *Mathews* test, though often focusing on the third factor of the *Ake* test. *See, e.g.*, Jennifer M. Allen, Student Article, *Free for All a Free for All: The Supreme Courts Abdication of Duty in Failing to Establish Standards for Indigent Defendants*, 27 LAW & INEQ. 365, 387–89, n. 209 (citing Moore v. Kemp, 809 F.2d 702 (11th Cir. 1987), and its progeny).

[160] *See supra* notes 37–51 and accompanying text.

[161] *See* 18 U.S.C. § 2252A(b). Mere possession has a maximum penalty of ten years. *See id.*; *see also* Elizabeth M. Ryan, Note, *Sexting: How the State Can Prevent a Moment of Indiscretion from Leading to a Lifetime of Unintended Consequences for Minors and Young Adults*, 96 IOWA L. REV. 357, 374–75 (2010) (citing Robert D. Richards & Clay Calvert, *When Sex and Cell Phones Collide: Inside Prosecution of a Teen Sexting Case*, 32 HASTINGS COMM. & ENT. L.J. 1, 12 (2009)).

[162] THE NATIONAL GUIDELINES FOR SEX OFFENDER REGISTRATION AND NOTIFICATION, U.S. DEP'T OF JUSTICE, 3, 33–34 (2008), *available at* http://www.ojp.usdoj.gov/smart/pdfs/final_sornaguidelines.pdf (discussing Sex Offender Registration and Notification Act and the AWA's registration requirements). Sex offender registration is a severe penalty because it can result in "employability problems, harassment, stigma[,] ostracism, humiliation, and physical harm.'" State v. Edwards, 157 P.3d 56, 63 (N.M. Ct. App. 2007) (changes in original); *accord* Michigan v. Fonville, 2011 WL 222127 (Mich. Ct. App. Jan 25, 2011) (finding that registration is a severe penalty); *Ex parte* Covey, No. PD-0145-09, 2010 WL 1253224, at *8 (Tex. Crim. App. March 31, 2010) (Cochran, J., concurring) (characterizing registration as draconian and stating that registration is often followed by harassment and even violence). *See also* Jenny Roberts,

The state's interest would also weigh in favor of the defendant. The economic interest of the state will likely be more convincing in the computer expert scenario because of the expense of a computer expert, which may reach six digits.[163] That interest should not outweigh the interest in a fair and balanced adjudication through an adversarial trial.[164] Furthermore, the government should put substantial weight on avoiding a wrongful conviction.[165] Therefore, as in *Ake*, the interest of the state would weigh in favor of granting expert assistance.

Finally, allowing a defendant access to a computer expert can significantly decrease the chances of a wrongful conviction by (1) permitting an advocate to search for malware that may have caused illegal material to be placed on the computer or caused the crime to be committed,[166] and (2) by permitting the defendant to combat the government's otherwise unrebutted expert.[167] Therefore, when the contents of a computer are likely to be a significant factor in the defense, a court should grant expert computer assistance.

D. Reasons to Avoid Retaining a Computer Expert

Defense counsel may have reasons for deciding not to retain a computer expert: if computer evidence is not pivotal to the case, a computer expert is likely unnecessary. However, even if a defendant admits he or she is guilty to the attorney, an adversarial system requires that the prosecution prove its case beyond a reasonable doubt. Defense attorneys should challenge every element of the crime charged and make sure that the prosecution has brought sufficient evidence.[168]

There are, however, reasons that retaining an expert may be inadvisable even though the assistance would be helpful for a defense. Communications between computer experts and a defendant or his counsel may not be entitled to confidentiality,[169]

Ignorance is Effectively Bliss: Collateral Consequences, Silence, and Misinformation in the Guilty-Plea Process, 95 IOWA L. REV. 119, 176 (2009).

[163] *See supra* notes 52–53 and accompanying text.

[164] *See* Ake v. Oklahoma, 470 U.S. 68, 77–80 (1985).

[165] *See id.*

[166] *See supra* notes 37–50 and accompanying text.

[167] *See supra* notes 47–48 and accompanying text.

[168] Model Rules of Prof. Conduct 3.1 states that a defense attorney in a criminal case may defend the case so as to require that the prosecution prove every element beyond a reasonable doubt. Some defense theories may not permit a defense attorney to challenge every element. However, when the best defense is a malware defense it should be open to the defense attorney. The argument against this is that it is too expensive and that it is hiding the truth. The expense is a difficult question that cannot adequately be dealt with in a few pages, thus I will leave it for another time. As to hiding the truth, by pushing the prosecution to use computer experts and thereby prove every element of the crime, (1) the adversarial process will be preserved and (2) the result will be more accurate as experts are used more frequently by the government.

[169] Carlton Bailey, *Ake v. Oklahoma and an Indigent Defendant's 'Right' to an Expert Witness: A Promise Denied or Imagined?*, 10 WM. & MARY BILL RTS. J. 401, 418 (2002) (comparing Granviel v. Texas, 495 U.S. 963, 965 (1990) (Marshall, J. dissenting) (arguing against the denial of certiorari in a case where the defendant was not granted a confidential expert), with Smith v. McCormack, 914 F.2d 1153, 1158 (9th Cir. 1990) (granting confidentiality between defense counsel and experts)). *See also* Emily J. Groendyke, Note, *Ake v. Oklahoma: Proposals for Making the Right a Reality*, 10 N.Y.U. J. LEGIS. AND

and some courts may require adversary proceedings in order for indigent defendants to obtain expert assistance.[170] Thus, the prosecution could be able to discover the defendant's theory of defense or even what the expert has discovered, posing significant risks for the defendant.[171] Therefore, retaining an expert might not be advisable in some jurisdictions.

E. A Hypothetical Sixth Circuit *Ake* Scenario

Defense counsel, a CJA panel attorney, is appointed to represent Defendant D in a child pornography case in the Sixth Circuit. During the initial consultation, Defendant D tells defense counsel that D did not download the alleged child pornography. D does not fully understand what happened. Defense counsel decides a computer expert is necessary to search D's computer for possible malware. Defense counsel files an ex parte motion for expert assistance claiming, the expert assistance is necessary to the defense, under the CJA, and that the defendant is entitled to the assistance under *Ake v. Oklahoma*.

The CJA request may be denied (and, if so, a reviewing court would almost certainly affirm). A Trojan horse defense mounts to a plausible defense,[172] but the defendant must also show that without the expert assistance D's case would be prejudiced.[173] To show that there would be prejudice, D would need to show that the computer had malware on it that may have downloaded the pornography without D's knowledge.[174] Therefore, to be entitled to expert assistance D would need the information that the expert would be retained to discover. Thus, D is caught in a catch-22. Furthermore, a computer analysis may take many hours[175] and will surely exceed $2,400; thus, requiring the court's prior approval.[176] A "small" computer forensics case will cost at least $5,000 to $10,000, but may run far in excess to those amounts. [177]

PUB. POL'Y 367, 389 n. 174 (2006–2007) (stating that some courts have granted confidentiality between an expert and his defense counsel)).

[170]Justin B. Shane, Note, *Money Talks: An Indigent Defendant's Right to an Ex Parte Hearing For Expert Funding*, 17 CAP. DEF. J. 347, 365 (2005).

> The possibility that the defense will not request an expert in order to protect the confidentiality of defense information risks burdening a defendant's rights to compulsory process, to effective assistance of counsel, against self-incrimination, and to expert assistance at trial. When defendants apply for expert funds and disclose their strategy to the prosecution, they give the prosecution a substantial tactical advantage by providing it with information it can use to tailor its pretrial investigation, opening and closing statements, presentation of witnesses and evidence, and cross-examination.

Id. at 366.

[171]*Id.* at 366-7.

[172]*See* Brenner et al., *supra* note 1, at 15. A former heard of the DOJ's Computer Crime and Intellectual Property Section asserted that the Trojan horse defense was plausible and that cyber set-ups may become a reality assuming they are not currently occurring. *Id.* (quoting Rasch, *supra* note 8).

[173]United States v. Gilmore, 282 F.3d 398, 406 (6th Cir. 2002).

[174]*See supra* note 155 and accompanying text.

[175]*See* Sweet, *supra* note 1 at A5.

[176]18 U.S.C. § 3006A(e)(3).

[177]*See supra* notes 52–53 and accompanying text.

Therefore, it may be difficult to obtain adequate funding for a computer analysis because a judge may be reticent to grant that amount of money.[178]

The *Ake* request would be denied. D would need to show that, based on specific facts, D is entitled to an expert.[179] Yet, the specific facts D needs would only be obtained, if at all, when the computer expert has conducted an analysis. Therefore, D is not entitled to expert assistance under *Ake* because, once again, D is caught in a Catch-22.[180] Thus, in most scenarios, a computer expert will not be available to the defense.

V. SOLUTIONS TO THE PROBLEMS

Because *Strickland*, the CJA, and *Ake* all create nearly insurmountable burdens on a defendant; courts, and particularly the Supreme Court, need to rethink the precedent to avoid the dilemmas and change the system. This Part demonstrates how courts and the legislature can solve the problems of *Strickland*, the CJA, and *Ake* by changing the law[181]; by offering greater accessibility to computer expert assistance; and by improving legal education at law schools or through CLEs.

However, the most effective way to improve the system is simple: plead the malware defense. The defense has been effective both in the United States and abroad.[182] By pleading the defense (with or without a computer expert) and winning, there will be a call for more money to fund and train government computer experts. This will force the government to truly test the case. As more computer experts are available, hopefully, more experts will become available to the defense. This could happen in one several ways. Increased awareness to computer evidence issues will spawn Congress and state legislatures to funding computer experts. Another possibility would be that courts will grant a larger number of computer experts in computer-evidence based cases. Also, it is possible that as the government uses the experts more often, more experts will be trained, and the cost of experts will drop making their use more practical in a larger number of cases. The most important thing, however, is proving the case beyond a reasonable

[178]There are no statistics on how often a court will grant expert assistance in excess of $2,400. However, it seems unlikely that a court would be willing to do so on a regular basis, as would be required in many child pornography and other computer cases.

[179]*See* Powell v. Collins, 332 F.3d 376, 392 (6th Cir. 2003).

[180]*See* A. Michelle Willis, Comment, *Nonpsychiatric Expert Assistance and the Requisite Showing of Need: A Catch-22 in the Post*-Ake *Criminal Justice System*, 37 EMORY L.J. 995, 1025–26 (1988) (discussing *Moore v. Kemp*, 809 F.2d 702 (11th Cir. 1987)); Groendyke, *supra* note 169, at 378–9 (discussing the dissent in *Moore v. Kemp*, 809 F.2d 702 (11th Cir. 1987), which categorized the standard as a Catch-22).

[181] The fear with such a change to the law is a flood of litigation. However, the fear of a flood of litigation is tempered by judicial response. When a law is changed there is initially a flood of litigation. However, as judges respond to the change in the law, the flood subsides and litigation returns to a steady stream. *Cf.* Stephen Landsman, *The History of Contingency of History*, 47 DEPAUL L. REV. 261, 264 (1998) (stating that the fear of a flood of litigation in America has generally proven to be a "chimera"); Ilya Somin, *Stop the Beach Renourishment and the Problem of Judicial Takings*, DUKE J. CONSTIT. L & PUB. POL'Y 91, 105 (2011) (arguing that there would not be a flood of litigation if there were a change in the law of regulatory takings, and that even if so, the flow would reduce as the rules became settled).

[182] *See* Brenner et al., *supra* note 1 at 4-8.

doubt—pleading and winning on the malware defense will force the government to spend the time, money, and energy needed to do this.

A. Fixing *Strickland*

Strickland should be rethought, at least as currently applied to computer experts.[183] The "deficiency" prong should be broadened to require attorneys to employ experts when the case involves in-depth computer evidence and when there is a possibility that retention of an expert would aid in the case. By requiring lawyers to act responsibly and obtain an expert when needed, courts will be recognizing the reality that is being a lawyer in the 21st Century.[184] To make this practicable, two things must be done. Computer experts must become more readily available to defense attorneys. The courts, legislators, or the executive must recognize that there should be a confidential relationship between computer experts, defendants, and defense counsel. Without such a guarantee, lawyers will be reticent to retain an expert for fear it may harm the case.[185]

One scholar has suggested that the Supreme Court has solved the problems with the deficient performance prong of *Strickland*.[186] In *Wiggins v. Smith*[187] the Supreme Court held that a failure to obtain expert assistance may constitute ineffective assistance of counsel when defense counsel's failure to investigate mitigating evidence falls below American Bar Association (ABA) standards.[188] Defense counsel had failed to explore mitigating evidence that might have resulted in a lesser sentence.[189] Although claiming to apply the *Strickland* standard, the Court appeared to apply a broader test with greater reliance on the ABA standards.[190] According to Professor Drinan, *Wiggins* stands for the proposition that a failure to heed to ABA standards would constitute deficient performance.[191] The current ABA standard for obtaining expert assistance requires the attorney to engage an expert when it is necessary for "quality representation."[192] Thus, a

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[183]This Part can more broadly be applied to expert assistance in general.

[184]*See supra* notes 31–33 and accompanying text.

[185]*See supra* notes 169–171 and accompanying text.

[186]*See* Cara H. Drinan, *The Revitalization of Ake: A Capital Defendant's Right to Expert Assistance*, 60 OKLA. L. REV. 283, 298–300 (discussing Wiggins v. Smith, 539 U.S. 510 (2003)). *Contra* Adam Lamparello, *Establishing Guidelines for Attorney Representation of Criminal Defendants at the Sentencing Phase of Capital Trials*, 62 ME. L. REV. 97, 130–31 (2010); *cf.* WAYNE R. LAFAVE ET AL., PRINCIPLES OF CRIMINAL PROCEDURE: CONCISE HORNBOOKS 149–50 (2009) (stating that counsel failed to meet ABA standards, but the Court also rested its decision on the special need for investigation in the particular case).

[187]Wiggins v. Smith, 539 U.S. 510 (2003).

[188]*See* Cara H. Drinan, *supra* note 186, at 298–300 (discussing Wiggins v. Smith).

[189]*See* John H. Blume & Stacey D. Neumann, *"It's Like Déjà Vu All Over Again:* Williams v. Taylor, Wiggins v. Smith, Rompilla v. Beard *and a (Partial) Return to the Guidelines Approach to the Effective Assistance of Counsel* 20 (Cornell Law School: Legal Studies Research Paper No. 07-019), *available at* http://ssrn.com/abstract=1024307.

[190]*See* Drinan, *supra* note 186, at 298–300 (discussing Wiggins v. Smith). *See also* Rompilla v. Beard, 545 U.S. 374, 387 (2005). In *Rompilla*, the Court placed heavy reliance on ABA standards in determining that defense counsel's performance was constitutionally deficient. *See* Blume & Neumann, *supra* note 189, at 21–22.

[191]*See* Drinan, *supra* note 186, at 298–300.

[192]ABA Standards for Criminal Justice: Providing Defense Services, Rule 5-1.4 (3d ed. 1992), *available at*

failure to obtain a computer expert in those cases where "quality representation" requires it (i.e. where much of the case will depend on computer-based evidence) would be deficient performance under *Wiggins* (and *Strickland*) according to Professor Drinan.[193]

On the other hand, *Wiggins* did not address *Strickland*'s prejudice prong.[194] Thus, even if *Wiggins* changed the standard of the deficiency prong, the change will have little effect until the prejudice prong is changed because a court need only address the prejudice prong before dismissing a habeas petition.[195]

The prejudice prong must be rethought in the computer expert context because it creates an insurmountable burden for the indigent defendant. A better test would determine if the lawyer's conduct undermined the proper function of the adversarial process.[196] Such a test would look to whether defense counsel meaningfully challenged

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http://www.americanbar.org/publications/criminal_justice_section_archive/crimjust_standards_defsvcs_blk.html#1.4.

[193]*See* Drinan, *supra* note 186, at 300; *see also supra* notes 37–51 and accompanying text.

[194]In *Wiggins*, there was substantial mitigating evidence that defense counsel failed to investigate, which the court considered substantial enough to cause grave doubt in the accuracy of the outcome. 539 U.S. at 534–35. Therefore, the decision did not change the prejudice prong of the *Strickland* test. Lamparello, *supra* note 186, at 130–31. *Contra* Drinan, *supra* note 186, at 300 (stating it would be ineffective assistance of counsel if defense counsel fails to investigate mitigating evidence).

[195]*See* Strickland v. Washington, 466 U.S. 668, 697 (1984).

[196]Justice O'Connor stated in *Strickland* that:

> [T]he ultimate focus of inquiry must be on the fundamental fairness of the proceeding whose result is being challenged. In every case the court should be concerned with whether, despite the strong presumption of reliability, the result of the particular proceeding is unreliable because of a breakdown in the adversarial process that our system counts on to produce just results.

Strickland v. Washington, 466 U.S. at 696 (1984). This statement places the proper weight on the adversarial system. However, the high burden imposed by the prejudice prong has limited *Strickland*'s effect in maintaining the adversarial system. *See Supreme Court, 2005 Term, Leading Cases Sixth Amendment—Right to Counsel of Choice*, 120 HARV. L. REV. 203, 211 (2006) (stating that the prejudice prong puts an almost insurmountable burden on the defendant and that this undermines confidence in the outcome); *cf.* Daniel S. Medwed, *Anatomy of A Wrongful Conviction: Theoretical Implications and Practical Solutions*, 51 VILL. L. REV. 337, 372–73 (2006).

> Attorney performance rarely constitutes ineffectiveness under this standard, and court decisions have deemed trial lawyers satisfactory in cases where they were not aware of the governing law, sober[,] or even awake at trial. In the vernacular, many observers refer to the Strickland rule as a "breath test"—"[i]f a mirror fogs up when placed beneath the lawyer's nostrils, he or she is not ineffective, as a matter of law." Empirical studies, moreover, support the popular image of ineffectiveness. For instance, one scholar analyzed 4,000 federal and state appellate opinions that involved allegations of ineffective assistance of counsel and determined that the courts had found ineffectiveness in only 3.9% of the cases. The recent trend in the courts toward affording public defenders immunity from personal liability for malpractice has not helped matters in that it provides assigned attorneys with even greater protection from public sanction and reprobation.

Id. (citations omitted). *Cf.* Richard L. Gabriel, Comment, *The Strickland Standard for Claims of Ineffective Assistance of Counsel: Emasculating the Sixth Amendment*, 134 U. PA. L. R. 1259, 1283–84 (1986) (stating

the government's case by exploring all possible defenses. Furthermore, a failure to investigate a malware defense through the use of a computer expert, where a defendant has stated that he or she did not commit the alleged computer activity, would undermine confidence in the outcome. This is because absent such an investigation, the government's case is not truly tested. Furthermore, because government experts may not always be honest,[197] it is important to check the government's results to ensure fully adversarial proceedings. If the lawyer's actions did undermine adversarial proceedings, then a failure to obtain a computer expert should be considered ineffective assistance of counsel.[198]

If one accepts Justice Marshall's rationales for ineffective assistance,[199] a conviction should likewise be overturned for failing to engage an expert when there is a possibility of a malware defense. Failing to obtain a computer expert may result in an innocent person being convicted.[200] Although such a scenario may be rare, punishment of an innocent person should be avoided whenever possible.[201] Furthermore, employing a computer expert ensures that the trial is conducted by a fundamentally fair procedure. By providing a computer expert to a defendant, the defendant is given a fair opportunity to rebut the government's case.[202]

This does not mean that a failure to engage a computer expert in a case with a possible malware defense will always result in the reversal of a conviction. Rather, a petitioner should be required to show that the government failed to explore the possibility of a malware defense and that defense counsel failed to engage a computer expert. Additionally, the defendant should be required to explain how a computer expert could have aided in the defense. This will require rather broad discovery, but ensuring the proper functioning of the criminal justice system requires such discovery. If a defendant can show such a failure, then the burden should shift to the government to come forward with evidence that a computer expert would not have aided the defendant's case. The government could do this by showing that it did in fact search for malware on the computer, and the search did not discover malware or only discovered malware that could not have caused the illicit materials to be placed on the computer. The government could also prove the defendant did not require a computer expert by hiring a computer expert

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that the rigid application and a categorical application of ineffective assistance of counsel are inadequate for purposes of the Sixth Amendment).

[197] *See supra* note 70 and accompanying text.

[198] *See supra* note 62 and accompanying text.

[199] For Justice Marshall the purpose of the guarantee to effective assistance of counsel is (1) to reduce the chance that an innocent person will be convicted and (2) to guarantee "that convictions are obtained through fundamentally fair procedures." Strickland v. Washington, 466 U.S. at 711 (1984) (Marshall, J., dissenting).

[200] *See supra* Part II.B. Malware may cause a computer to download illegal images or material unbeknownst to the computer's owner.

[201] *See supra* note 159 and accompanying text. Some may argue that the proper balance must be made between ensure the adversarial process and economic efficiency. But the conviction of an innocent person is the primary concern in criminal proceedings because it is such an egregious wrong; thus, the defendant should be given all the tools necessary to present his or her defense.

[202] *See* Margaret A. Berger, *Laboratory Error Seen Through the Lens of Science and Policy*, 30 U.C. DAVIS L. REV. 1081, 1102 (1997); Groendyke, *supra* note 169, at 388 (stating that allowing expert testimony to remain uncontroverted may contravene a defendant's right to confront her accuser).

who finds through analysis that the computer is free of malware.[203] Thus, the prejudice prong would not be entirely abdicated, but rather some of the burden would be put on the government: a group that is more likely to have funding to explore a malware defense.

B. Fixing the Criminal Justice Act

The judiciary can fix the CJA's guarantee of expert assistance. The courts can redefine and rethink the term "necessary."[204] Courts generally interpret the guarantee narrowly.[205] This may be because of fiscal conservatism, lawyer-centrism,[206] or some other consideration. "Necessary" should therefore be defined as the Fifth, Ninth, and Eleventh Circuits have defined the term.[207] This would inevitably require courts in the Sixth Circuit to grant expert assistance in a higher percentage of cases; but access to computer experts will improve the adversarial system and help avoid wrongful convictions.[208] Additionally, reviewing courts should apply a stricter standard of review when determining whether an expert should have been appointed. Currently, the courts give broad discretion to the trial judge.[209] Thus, the trial judge's decision is largely final. To ensure the defendant's right to expert assistance, reviewing courts should force the lower courts to grant the assistance, by reversing and remanding those cases where expert aid should have been granted.

Congress can fix the problems in the CJA by changing the word necessary to something less rigorous (i.e. language allowing an expert when the defense shows that the expert could help offer a plausible defense). This standard would be more liberal, but require defense counsel to research case law to support the request for expert assistance. Furthermore, Congress can increase funding for court appointed attorneys and the computer experts that these attorneys require.

C. Fixing *Ake*

Fixing *Ake v. Oklahoma* will require the Supreme Court to offer greater guidance to the lower courts. First, the Supreme Court should affirmatively state whether a defendant is entitled to a neutral expert working for the defense and the government, or an expert advocating for the defense. The Circuits are currently split on the issue.[210]

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[203] Of course there is still the possibility that malware could have downloaded the illegal material, and then deleted itself, but even then traces of the malware may be found. *See* Brenner et al., *supra* note 1, at 49–50.

[204] 18 U.S.C. § 3006A(e).

[205] *See supra* notes 69–70 and accompanying text.

[206] I define lawyer-centrism as the belief that lawyers are completely adequate to defend a criminal case. Such a belief would not support the use of experts because of the belief that proper cross-examination would be sufficient to counter a government expert. This is likely inaccurate in a technologically advanced society such as our own. *See supra* notes 31–33 and accompanying text.

[207] *See supra* notes 59–60, 62 and accompanying text.

[208] *See supra* notes 37–51 and accompanying text.

[209] Wiseman, *supra* note 31, at 523–24 (explaining exactly how deferential the standard of review is). *See supra* note 196.

[210] Bailey, *supra* note 169, at 430–37 (*comparing* Granviel v. Lynaugh, 881 F.2d 185, 192 (5th Cir. 1988) (holding defendant was entitled to a neutral, non-advocate expert available to the government and the

Ultimately, the Court should hold that defendants have a right to an advocate expert[211] as the Sixth Circuit has held. [212] Language in *Ake* clearly supports this proposition.[213] Furthermore, to ensure the adversarial nature of a trial and to make sure the government has truly proven its case beyond a reasonable doubt, the defense should be granted funds so as to be able to present its own expert to rebut the testimony of the government. Additionally, the right to an ex parte proceeding, as guaranteed under the CJA[214] should be extended to the *Ake*-guarantee of expert assistance to protect the defense from unnecessarily disclosing its theory of defense.[215]

Second, the Supreme Court should give greater guidance on the test for determining whether a defendant is entitled to expert assistance. The current Sixth Circuit test that requires a defendant to come forward with specific facts justifying the appointment of an expert is unsatisfactory because it places the defendant in a catch-22 scenario.[216] To prevent this catch-22, the Sixth Circuit, and the Supreme Court, should require a defendant to show that the government will use a computer expert at trial[217] and that a defense computer expert may discover information that would be beneficial to the defendant's case. Furthermore, the government should be required to inform the defense of the use of an expert well in advance of trial, so that the defense can have a computer analysis done.[218]

Finally, review of the denial of expert assistance under *Ake* defies harmless error review. Some courts have held *Ake*-denial to the harmless error standard, but the wrongful denial of expert assistance is much like the denial of the assistance of an attorney.[223] If a person is wrongfully denied the assistance of counsel, a court must grant a new trial.[219] It is unascertainable what effect the testimony of a defense expert would have had on a jury or on a judge at sentencing. Therefore, it defies harmless error review because it "affec[ts] the framework within which the trial proceeds" and is not "simply an error in the trial process itself."[220] Thus, courts should consider the failure to employ an

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defense), *with* Smith v. McCormack, 914 F.2d 1153, 1158–60 (9th Cir. 1990) (holding the defendant was entitled to an independent expert advocating for the defense)).

[211]*See supra* note 37 and accompanying text.

[212]Powell v. Collins, 332 F.3d 376, 391–92 (6th Cir. 2003) (joining those other circuits that require a defendant be appointed an independent defense expert under *Ake*).

[213]Groendyke, *supra* note 169, at 392–93. (Groendyke cites Ake at 82-83 (not 81) (see Groendyke fn 194) (however, note that Ake at 81 does contain the quote cited by the author)

[214]*See* Gianelli, *supra* note 47, at 1338.

[215]*See supra* notes 169–170 and accompanying text.

[216]*See supra* notes 178–180 and accompanying text.

[217]Disclosure of a government expert is required by the Federal Rules of Criminal Procedure upon the defendant's request. FED. R. CRIM. P. 16(a)(1)(G).

[218]This may require a month or more of notice. *See* Sweet, *supra* note 1. In that case the defense expert required almost a month of computer analysis to exonerate the defendant. *Id.*

[219] *See* Gideon v. Wainwright, 372 U.S. 335, 344–45 (1963); United States v. Gonzalez-Lopez, 548 U.S. 140, 148–49 (2006) (stating that denial of the assistance of counsel is a structural defect requiring the reversal of a conviction).

[220]Arizona v. Fulimante, 499 U.S. 279, 310 (1991).

expert as structural error, and reverse and remand when counsel unreasonably failed to employ a computer expert.[221]

D. Improved Access to Computer Experts

To improve access to computer experts several steps could be taken. Initially, lawyers and judges should be informed of the assistance that a computer expert may have for a criminal defendant. This could be done through CLEs or through law school classes. In doing so, professors, attorneys, and judges should emphasize the ever-increasing need to employ computer experts.[222] Lawyers should not pause to engage a computer expert when a case calls for it because, for many criminal cases, gone are the days when a lawyer can rely solely on wit and legal expertise to win a case.[223]

Additionally, to make computer experts more readily available, it would be advisable to create a position for a computer expert in the public defender's office or to create a computer expert defender's office. The computer expert would need to be made available to indigent defendants whose cases could be improved through a computer analysis. Such an approach is advantageous because it can reduce the extreme expense associated with a computer expert and make the experts, if not more accessible,[224] at least more visible.[225] Furthermore, the computer expert could function similar to in-house counsel by determining when there is a need to engage other computer experts and giving defense counsel the "specific facts" required to find that an expert is "necessary" under the CJA and *Ake*. Another way to improve the access to computer experts may be through improved educational opportunities.

E. Educational Possibilities

The legal world can improve access to computer experts by creating a hybrid lawyer-computer forensic analyst. Such a lawyer would be prepared to deal with the computer issues that might arise at trial and would be capable of conducting the computer analysis. This person would need in-depth computer forensics training. A law school that offered computer forensics certification, while a student pursues a law degree, would be a good step forward. [226]

Other educational opportunities would be more conservative. Through CLEs and law school classes, attorneys and students could be informed of how to obtain computer expert assistance and when computer expert assistance is necessary. Furthermore,

[221]This may seem like an extraordinary statement and initially the results may be extreme, but if judges grant the expert assistance that is needed, then there will be no need for reversal.

[222]*See supra* Part II.B–C.

[223]*See supra* notes 31–33 and accompanying text.

[224]An expert employed in such a capacity would likely have a large caseload and limited time to spare.

[225] Visibility may be advantageous because, hopefully, then lawyers will realize the need for computer experts and begin to use computer experts to a greater extent.

[226]As of now, no law school offers such a program.

students and lawyers should be educated on the possible defenses that lie in the computer context.[227]

VI. CONCLUSION

It was a nightmare, being arrested, convicted and punished for a crime I did not commit. Eventually, it was discovered that malware had been used to place the illicit materials on my hard drive. It was the friend of a friend who offered to do the investigation for free. I do not feel exonerated. I do not feel vindicated. People still see me as though I wear a scarlet letter. At least I am free.

The ultimate solution is simple; society must begin to provide greater funding to the defense of an indigent accused. A system of justice is unfair and unjust until the basic tools necessary for a defense are provided to all accused, not just those with the resources to obtain the best attorney and experts. Our system currently functions in such an unjust manner, and until adequate resources are apportioned to the defense of indigents, the injustice will continue. Furthermore, the *Strickland* test has caused its own brand of injustice by denying a person the right to a fair trial,[228] and the injustice will continue until the Supreme Court rethinks *Strickland* in a way that will provide greater protection to the accused as suggested by Justice Marshall.

This Article has made the narrow argument that an indigent defendant should have access to computer experts when that assistance will aid in the creation of a defense. However, fixing the problems will require more widespread action addressing the broader issues of inadequate representation and funding for the indigent.

[227] *See generally* STRATEGIES, *supra* note 7; Brenner et al., *supra* note 1.

[228] *See, e.g.*, Wilson v. Rees, 624 F.3d 737, 737–41 (2010) (Martin, J., dissenting) (discussing the aberration that was the defendant's trial counsel's performance).